To: California Energy Commission

From: 1Energy Systems, Inc

RE: EPIC Second Investment Plan: Market Facilitation Recommendation

Docket #: 12-EPIC-01

Date: February 11, 2014

We respectfully suggest that the Commission consider allowing technology standardization efforts to apply for funding in its next triennial plan. Open, non-proprietary standards have been instrumental in unlocking innovation in many technology-based industries. USB, Bluetooth and WiFi are three familiar examples from the computing industry. Standards like these increase compatibility across vendor product lines, enable interoperability between products or disparate parts of a system and provide customers with an easier way to bid out capabilities that they need, particularly in emerging technology areas. And the cumulative effect of all of these benefits is that innovation scales much more quickly.

As energy storage systems mature and the electrical grid adds intelligence to deal with distributed energy resources, demand response assets and other new trends, there is much work to do to further define relevant, open technology standards. Efforts such as SunSpec (Solar PV), OpenADR (Demand Response) and MESA (Energy Storage) are all making valuable headway. But as a founding member of MESA and a participating member of several other standards efforts, we have seen how these efforts can struggle for resources, particularly early in their lives. This lack of a small core of dedicated capacity can slow their pace of progress substantially. Being staffed by member volunteers means that progress can be stalled when a key person gets busy in their "day job." And bootstrapping certification testing and logo licensing programs would be much easier with relatively small amounts of seed funding.

By enabling these efforts to apply for funding, the Commission can use EPIC resources to "facilitate market development" in an important way. And more rapid scaling of grid innovation should be particularly valuable to California rate payers given the state's aggressive goals on carbon reduction and cost-effective renewable and storage deployment.

Thank you for giving this consideration as you formulate the market facilitation portion of your 2nd triennial investment plan. If you have any questions about our recommendation, feel free to contact Rogers Weed at 206-234-8450 or rogersw@1energysystems.com.

STATE OF CALIFORNIA
EPIC TRIENNIAL INVESTMENT PLAN 2015-17
Proposed Energy Research Initiative
Questionnaire

CALIFORNIA ENERGY COMMISSION

(This is a Request for Information only - Complete Pages 1 and 2 for each initiative)

Title of Proposed Initiative (Short and concise):

Investment Areas (Check one or more) – *For definitions, see First Triennial Investment Plan, page 12*:

- ☐ Applied Research and Development
- ☐ Technology Demonstration and Deployment
- ☒ Market Facilitation

Electricity System Value Chain (**Check only one**): *See CPUC Decision 12-05-037, Ordering Paragraph 12.a. http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/FINAL_DECISION/167664.PDF.*

- ☒ Grid operations/market design
- ☐ Generation
- ☐ Transmission
- ☐ Distribution
- ☐ Demand-side management

Issues and Barriers:

Describe the issues and barriers that are impeding full market adoption of the proposed clean energy technology or strategy (such as cost, integration, or lack of information).

Initiative Description and Purpose:

How will this technology or strategy help address the issue/issues? Describe knowledge to be advanced to overcome critical barriers. Include the recommended funding level (minimum and maximum) for each project under this initiative.

Stakeholders:

Identify the stakeholders who support the initiative.

Background and the State-of-the-Art:

- What research development and demonstration has been done or is currently being done to advance this technology or strategy (cite past research as applicable)?
- Describe any public and/or private successes and failures the technology or strategy has encountered in its path through the energy innovation pipeline: lab-scale testing, pilot-scale testing, pre-commercial demonstration, commercial scale deployment, market research, workforce development.
- Identify other related programs and initiatives that deal with the proposed technology or strategy, such as state and federal programs or funding initiatives (DOE, ARPA-E, etc.).

Justification:

Describe how this technology or strategy will provide California IOU electric ratepayer benefits and provide any estimates of quantified annual savings/benefits in California, including:

- Name of sector and estimated size and energy use.
- Quantifiable performance improvements for the proposed technology/strategy.
- Maximum market potential, if successful.
- Number of direct jobs created in California.
- Why this research is appropriate for public funding.

Ratepayer Benefits (Check one or more)**:**

☒ Promote greater reliability

☒ Potential energy and cost savings

☐ Increased safety

☒ Societal benefits

☐ Environmental benefits - specify

☒ GHG emissions mitigation/adaptation in the electricity sector at the lowest possible cost

☐ Low emission vehicles/transportation

☐ Waste reduction

☒ Economic development

Describe specific benefits (qualitative and quantitative) of the proposed initiative

Public Utilities Code Sections 740.1 and 8360:

Please describe how this technology or strategy addresses the principles articulated in California Public Utilities Code Sections 740.1 and 8360. The California Public Utilities Code is available online at www.leginfo.ca.gov/cgi-bin/calawquery?codesection=puc.